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Title

SMES COMPETITIVE ADVANTAGE THROUGH SUPPLY CHAIN MANAGEMENT PRACTICES

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ABSTRACT:

The impact of globalization has compelled SMEs to adopt Information and Communication Technology (ICT) practices to survive and compete with large companies. This paper describes the role of Information and Communication Technology (ICT) enabled Supply Chain Management practices to achieve the competitive advantage. The paper synthesizes the existing contributions to supply chain literature primarily focusing on ICT practices and draws on various related bodies of literature that enables SMEs to achieve competitive advantage. The key for SMEs is that the information and communication technology provides so many options and avenues to take advantage of in a way that big business just can't or doesn't see value in. Finally the paper suggests that SMEs should establish appropriate ICTs goals, identifies critical ICTs needs and allocates financial resources in order to achieve the competitive advantages.

Key words: Information and Communication Technology (ICT), Supply Chain Management, Competitive Advantage, Small and Medium-sized Enterprises (SMEs).

Introduction:

The small-scale industrial (SSI) sector accounts for 95% of industrial units in India. The sector accounts for 39-40% of value-addition in the manufacturing sector. Not only that, SSIs account for more than 30.0 percent of total exports from India. SSIs also account for 6-7% of Gross Domestic Product (GDP). There are about 13 million SMEs in the country, manufacturing about 8,000 products and accounting for 60 percent of India's exports. Some of them are so big that they produce up to 80 percent of the total volume of that particular product produced in India. Information and Communication technology (ICT) is perceived to play a crucial role in transforming not only big but also small-and-medium enterprises (SMEs). Enabling policies on the part of government in order to provide incentives to SMEs for usage of ICT is quite essential. SME are often seen as vital for the growth and innovation of economies and the long term of economic development of the countries depends on the promotion of SME sector (Ramsey, et al 2003). Behind this lies a common recognition that SME play an important and a key role in revitalization and development of national economy in many countries by providing various

goods and services, forming a structure of division of labor and developing regional economies and communities. Furthermore, SME are considered key agents of social and economic growth and are increasingly becoming the most vital part of the economy since they play a key role in fostering growth, creating jobs and reducing poverty. Governments in developing nations should thus promote the growth of SMEs in order to avoid monopolistic and oligopolistic markets with the right kind of policies and regulatory frameworks. SMEs have great potential to drive economic growth, so governments should remove constraints and create an enabling environment. In the backdrop of global financial crisis, the Reserve Bank of India has taken several steps in order to promote economic growth and avoid recession, which include easy credit facilities and appropriate credit pricing for SMEs.

This paper is organized into five sections. The first section provides a brief review of literature that focus on the importance of Information and Communication Technology (ICT) practices in Small and Medium Enterprises (SMEs). Next section describes the importance of supply chain management practices in SMEs. Third section describes how ICT enabled supply chain management practices helps the firms to achieve their competitive advantage. Lastly, the conclusion and limitation sections elaborate on the findings and limitations of this study.

Information and Communication Technology (ICT) practices and Small and Medium Enterprises (SMEs):

ICTs are technologies and tools that people use to share, distribute, and gather information and to communicate with one another, one on one, or in groups, through the use of computers and interconnected networks. In addition ICTs are mediums that utilize both telecommunications and computer technologies to transmit information. ICT environment helps in fast and accurate decision-making by the SMEs due to increased mobility. The critical components before SMEs are speed of services, access to information, empowering employees in terms of skill and delivering highest valued services at competitive cost. SMEs need ICT-based solutions in terms of multi-tasking, expanding customer base, raising productivity, controlling cost, working remotely, fast and accurate decision-making and facilitating collaboration. SMEs have various needs in order to function in an aggregative manner to reach out for value addition by keeping in mind the variable cost model. ICT usage by the SMEs raises productivity of the sector in

particular and the economy in general. Product leadership, operational excellence and customer relationship, which SMEs look at while using ICT-based solutions is essential. SMEs have to be good decision-makers, planners and strategy-makers regarding the type of technology, which they are adopting. There is the need for best manufacturing practices in the SME sector. Innovation, design development and validation by the SMEs in the face of globalization and rapid technological advancement, to stay afloat during competition are the essentials. There is also the need for investment in infrastructure i.e. roads, ports and power, and effective fiscal interventions by the government so as to promote SMEs. Instead of IT use being limited to accounting or some in-house activities, there is the need to use IT to look at inventories and capacity utilization. TQM, TPM, Six sigma, ISO etc are essential for effective standardization of the SMEs. SMEs instead of adapting to proprietary software like Microsoft Office can rely upon free and open source software (FOSS) like Open Office, Linux Red Hat et al for cost reduction. It has been found ERP software such as NAVISON can reduce operational cost drastically. Other web-enabled ERP vendors are BaaN and IFS. ERP is considered as an integrated system, which allows information to enter at a single point in the process and update a single, shared database for all functions that directly or indirectly depend on this information. ERP solutions cover human resource, corporate finance, production planning and control, materials management, quality management, plant maintenance, services management, quality management, plant maintenance, services management, and sales and distribution. Accounting software like Tally helps in financial management of an organization. Integrated Transactional Information Systems such as Radix, MakeESS, Octopus-E, Tech Solutions etc. can also help the SMEs. SCM (Supply Chain Management) software help in raising productivity and efficiency of inventory controls. CRM (Customer Relationship Management) is considered to integrate people and technology to maximize external relationships.

Supply Chain Management and Small and Medium Enterprises (SMEs):

The crux of any business lies in its ability to manage its supply chain effectively. In today's global business context, firms that can streamline their supply chain and churn out finished products faster will undoubtedly benefit the most. Unfortunately in India, most manufacturers are faced by hurdles of inefficiencies. While some of them are external, most of them are internal

and can be addressed with the help of technology. In Indian SMEs, experience in supply chain management is generally lacking. This phenomenon has particular relevance in the SME sector, which is being forced to perform or perish in the face of global competition. SMEs need to develop the tools, techniques and training products that help companies to adapt and achieve viability. They need to focus on linkages by which SMEs can integrate themselves in the supply chains of large enterprises. SMEs must use technology-based tools in such a manner that they become the technology sources for larger companies. It is not about using the highest technology or the most sophisticated techniques alone. SMEs need to concentrate on the fundamental principles of being a good supplier or distributor. To incorporate supply chain management, SMEs need to concentrate on assessing the technology requirements for improvement in processes and management practices. The objective of every supply chain is to maximize the overall value generated by an enterprise. It consists of all stages involved directly or indirectly in fulfilling a customer's request. The management of an enterprise often finds itself caught between customers' mounting demands and the company's need for growth and profitability. SMEs have been rather slow, and at times reluctant, to resort the offerings of Supply Chain Management (SCM) for their businesses. The prime focus of most of the solutions and services available in the market is on the big players rather than SMEs. The latter are also at a disadvantage due to their inherent resource constraints. However, various factors related to globalization have now rendered implementation of SCM an imperative even for SMEs. Experts believe that effective and efficient SCM can help Indian SMEs to reduce their cost and compete aggressively in the international markets. With the advent of globalization, it becomes imperative that the supply chains of Indian SMEs are linked with their global suppliers as well as vendors. The growth of Supply Chain Management in the Indian market is still maturing. The process seems to have started, but there is a long way to go. To a great extent, due to the huge resources at their disposal, large enterprises have learnt to leverage SCM to their advantage. Modern SCM has effectively addressed the needs of SMEs. SCM has allowed Indian businesses to enjoy productivity and value. Nearly 70 percent of India's gross domestic product directly or indirectly comes from SMEs. It is therefore evident that the potential of the SME sector in India is huge. The advent of globalization has increased business opportunities for companies by many folds, making timely and safe delivery of express shipments critical. The Indian market has become competitive and these pressures have made several Indian organizations realize that individual

companies cannot deal with the competition single-handedly. In such cases, the requirement of supply chain management is of utmost importance for running an organization successfully. To realize the importance of Supply Chain Management and to develop solutions best suited for a particular enterprise is the need of the hour. It's all about how a company works today for his tomorrow. The emphasis should be not only on cost efficiency and quality, but also on speed and innovation. However, SMEs need to invest in clean and efficient technologies. The role of SME cluster formation cannot be ignored at all but it is essential to take into consideration issues like environment impact assessment (EIA), displacement of local people, dispute settlement between management and labor etc. Re-utilization of industrial wastage by the SMEs becomes an important strategy to overcome environmental degradation.

Information and Communication Technology (ICT) enabled SCM practices and Competitive Advantage of SMEs:

In a time of globalization, when competition is increasingly dynamic, small and medium-sized enterprises (SMEs) must start to become global. It's very easy to say and everybody will agree, but, of course, the objective is not so simple. Global competition is forcing enterprises to become agile. Agility in business performance is the ability of a company to prosper in rapidly changing, continually fragmented global markets for high-quality, high-performance, customer-configured products and services. In this endeavor, information and communication technology (ICT) plays an increasingly important role in facilitating the introduction of new products or services, in improving operational processes, and in guiding managerial decision making. The impact of globalization has compelled SMEs to adopt ICTs, to enable SMEs to survive and compete with large companies. SMEs would greatly benefit by ICTs adoption in their business processes (Maguire et al., 2007). However, as SMEs continue contributing to the economy, they are faced with many challenges which inhibit them not to compete with large enterprises. One of the major constraints is lack of ICTs adoption in their business processes. It is commonly accepted that ICTs provides many potential benefits to organizations so as to make them more efficient, effective and competitive (Fink and Disterer, 2006). There is evidence that ICTs will increasingly empower SMEs to participate in knowledge management by facilitating connectivity, helping them to create and deliver products and services on global scale

(MaCgregor, 2004). ICTs adoption by SMEs would transform the business operations by enabling rapid, reliable and efficient exchange of large amount of information.

In this information era successful enterprises produce high technology goods and services and transform human effort materials and other economic resources into product and services that meet customers need. In such environment, in order to be successful, SME would need high quality information and must always provide superior value, better than competitors, when it comes to quality, price and services. SME would need as well as effective information systems to support and to deliver information to the different users. Such information systems would include those technology that support decision making, provide effective interface between users and computer technology and provide information for the managers on the day-to-day operations of the enterprises. Information is needed for various purposes and serves as an invaluable commodity or product. Information is very important aspect of decision making in all levels of management in enterprises (Hicks, 1993), especially in competitive business environment and managers utilize information as a resource to plan, organize, staff administer and control activities in ways that achieve the enterprises objectives. The ability of SME's to realize their goals depends on how well the organization acquires, interprets, synthesizes, evaluate and understands information and how well its information channels supports organizational processes.

Several studies have specifically scrutinized the diffusion of electronic markets, electronic data interchange and internet commerce among SMEs (e.g. Quayle, 2003; Grandon and Pearson, 2004). The propensity for introduction of e-commerce varies by industry and sector factors. Not surprisingly, firms with entrepreneurial orientation and high technology content in their products exhibit significantly higher e-business adoption rates. Other SMEs with limited technology content suffer from lack of funding and expertise, thus reducing their ability to exploit technology available beyond the initial web page design. Effective ICT management is particularly critical for small and medium enterprises (SMEs) because they operate different from large companies. First, SMEs tend to have centralized structures and to employ generalists rather than specialists, and this results in a lack of ICT knowledge and technical skills. Second, SMEs lack the financial resources to invest in ICT infrastructure and to train their ICT users. Furthermore, SMEs have less in the way of resources to absorb the shocks of an unsuccessful

investment in ICT. Mismanagement of ICT can be detrimental to the competitive effectiveness of enterprises. SMEs are therefore under increasing pressure to employ ICT effectively in order not only to maintain their competitive positions but also simply to survive. Evidence shows that durable productivity gains have been achieved in enterprises which have adopted information and communication technology (Dangayach and Deshmukh, 2003; Sheils et al., 2003). The rate of expansion of globalization has encouraged among other things the effective flow of data in organizations, which can only be facilitated by the use of ICTs. The study conducted by (Sharma and Bhagwat, 2006) argued that the flow of information in an organization is the blood life of any business operating unit irrespective of its size. In this era of globalization the revolution of ICTs has affected the way businesses operate. First, it has changed the business structures and altered the degree of competition. Secondly, it has created a competitive advantage for the businesses which have adopted ICTs. Thirdly, it has affected the new businesses operations. These changes have compelled SMEs to adopt ICTs in order to cope with these changes in the environment (Casolaro and Gobbi, 2007). ICTs adoption by SMEs provides means to access, process and distribute greater amounts of information to the concerned personnel within an organization. This aids management to make quick and thoughtful decisions to assist SMEs in strategic planning (Jimmy and Li, 2003). There is need to embrace the state-of-art technologies especially in SMEs in order to penetrate international markets and remain competitive despite the challenges posed by globalization, liberalization and technological changes. In addition SMEs are faced with competition from multinational corporations in the domestic market (Sharma and Bhagwat, 2006). These competitions are in form of reduced costs, improved quality products with high performance, wide range of products and better services, all delivered simultaneously to enhance the value of their customer (Dangayach and Deshmukh, 2003). This situation has forced SMEs to adopt ICTs in order to counter the competition posed by large and multinational companies.

The factors which influences ICT adoption in SMEs includes: organization's ICT readiness, external pressure to adopt, customer/supplier dependency, structural sophistication of the businesses, size, sector and status and its information intensity (Harker and Akkeren, 2002). ICTs adoption by SMEs increases productivity in the production process enhances and increases efficiency of internal business operations, and connecting SMEs more easily and cheaply to

external contacts (Pokharel, 2005; Taylor and Murphy, 2004). Similarly ICTs adoption by SMEs improves the operational efficiency, reduce operations cost and create global market access to SMEs (Schware, 2003). ICTs adoptions by SMEs are faced with many challenges especially poor ICTs infrastructure, lack of ICTs technical and managerial capacity. In addition, lack of awareness and understanding of ICTs are also considered as obstacles among SMEs in adopting ICTs to enhance their business processes. In addition lack of human resources, comprehensive legal framework, language barriers and lack of confidence and trust in new technologies by SMEs are the main barriers of ICTs adoption. SMEs are at the very least perceptions of unresolved security and privacy issues associated with the use of the Internet and therefore, SMEs are not ready to adopt ICTs in their business processes. Stockdale and Standing (2002) argued that the barriers to ICTs adoption by SMEs includes lack of resources and knowledge, the skills levels of business operators, lack of trust in the ICTs and lack of recognition of the potential to improve business appropriate to the effort and costs of adoption and lack of understanding of the realizable benefits.

Conclusion:

Since the global economy becomes increasingly reliant on information and communication technologies (ICTs) in order to receive, process, and send out information, SMEs in developing countries are expected to go for ICTs. It is said that SMEs face competition from global giants due to which they ask for protection, and technological and financial support from the State. SMEs in the developing nations should integrate into the global supply chain, bid for outsourcing businesses, and increase their own productivity. In the course of time, however, their reliance on the informal sector of the economy for fetching raw material and informal goods should not become exploitative in nature. The key for SMEs is that the information and communication technology provides so many options and avenues to take advantage of in a way that big business just can't or doesn't see value in. Whether this opportunity lasts for long is unknown, but what is known is that those businesses that change to meet the ongoing needs of customers will succeed. SMEs should establish appropriate ICTs goals; identifies critical ICTs needs and allocates financial resources for the same. This makes ICTs adoption by SMEs possible. System characteristics within a business aids in ICTs adoption. For instance SMEs with large number of

administrative applications readily support ICTs adoption as a tool for management control, operational control and administration.

Limitation:

The main limitation of this work is the absence of empirical research. This will be taken up as the future scope of the present work.

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